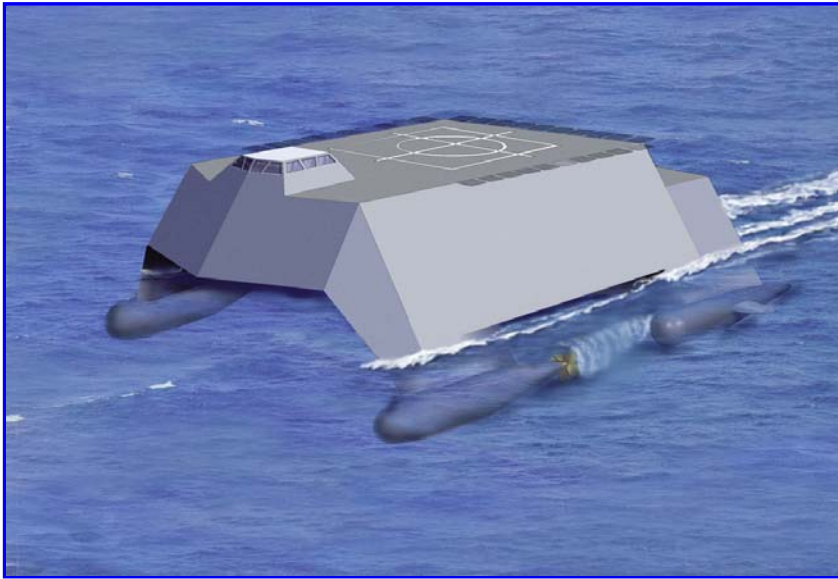


# Dvorak Uncensored

## Researchers designing all-electric warship

Published on December 24th, 2007

Posted by [Eideard](#) in [General](#)



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A University at Buffalo electronic-packaging researcher is helping the U.S. Navy to develop a [next generation all-electric warship](#) that will revolutionize the Navy's use of weaponry and manpower.

The electric warship's system architecture to be designed by Cemal Basaran, director of the Electronic Packaging Laboratory in the UB School of Engineering and Applied Sciences, and other researchers working on the project for the Navy will make available throughout the entire ship onboard electric power generated by the ship's power plants and mechanical propulsion system...

The Navy plans to have the electric warship operational by 2012.

Core concept of this prototype appears to be like diesel-electric locomotives; but - erm - a little larger. Certainly, more sophisticated.

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## 22 users responded in " Researchers designing all-electric warship "

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# 1 gquaglia said, on December 24th, 2007 at 8:32 am

They should install a small nuke plant on this thing. Limitless power and it would never have to refuel.

# 2 eyeofthetiger said, on December 24th, 2007 at 9:06 am

Where the hell are the big guns? Navy boys playing too much Halo.

# 3 moss said, on December 24th, 2007 at 9:12 am

Prototypes like this don't need guns. Just a helipad to land the Bush family for fishing trips.

# 4 Awake said, on December 24th, 2007 at 9:18 am

Every ten years or so they come out with some new design for a warship. It never amounts to anything, especially the catamaran design illustrated here.

Just a little flooding in one of those catamaran pontoons and the whole thing topples over.

# 5 [jlm](#) said, on December 24th, 2007 at 9:31 am

hmm, wasnt that in a bond movie?

# 6 moss said, on December 24th, 2007 at 9:32 am

#4 - actually the same concept, albeit at low speeds - but, significant power ratings, has been used for decades on offshore drilling platforms.

No problems.

# 7 Rabble Rouser said, on December 24th, 2007 at 9:54 am

How stupid is that. One shot from my EMP cannon, and that thing is dead in the water. Not only will my EMP cannon do the job, but a decent sized nuclear explosion in the vicinity of this thing would do it too.

# 8 Greymoon said, on December 24th, 2007 at 10:50 am

Sharks with lasers - Engage!

# 9 [Angel H. Wong](#) said, on December 24th, 2007 at 11:33 am

#7

Plus, IT'S AN ELECTRIC VEHICLE SURROUNDED BY SEA WATER, one tiny leak and everyone's electrocuted.

# 10 bill said, on December 24th, 2007 at 11:36 am

isn't an electric warship called a 'submarine'? let's build a 'Red October' instead.

# 11 gquaglia said, on December 24th, 2007 at 12:39 pm

I don't think submarines use an electric motor. Its screw is attached to a steam turbine that is powered by the nuclear reactor.

<http://www.fas.org/man/dod-101/sys/ship/eng/reactor.html>

# 12 MikeN said, on December 24th, 2007 at 1:13 pm

water on electrical wires usually isn't a good idea. Call me when they make it solar powered.

# 13 gquaglia said, on December 24th, 2007 at 1:50 pm

#9, #11 - Most warships have enough wiring to stretch from coast to coast. I think the Navy has the whole electricity and water thing down.

# 14 [Mike Voice](#) said, on December 24th, 2007 at 6:56 pm

I read an article about the SWATH design, several years ago - when I was still in the navy - in the Navy's own journal of engineering.

See the Wiki entry on SWATH

<http://tinyurl.com/2bft4x>

At the time - years ago - the electric-motors down in the pontoons couldn't generate enough thrust... so the Navy article was about an engineer's idea to use cryogenically-cooled superconducting windings in the motors.

Great efficiency from the motors, but added complexity with cryogenic system to support the motors.

There may have been some discussion of superconducting generators, as well.

Makes you appreciate why there was so much interest on "room-temperature" superconductors, years ago. 😊

Quick google search brings-up an old IEEE paper:

"Superconducting machinery for naval ship propulsion"

<http://tinyurl.com/ytnw26>

# 15 [Mike Voice](#) said, on December 24th, 2007 at 7:04 pm

*Where the hell are the big guns? Navy boys playing too much Halo.*

Guns... shhmuns.

Its like with planes & ships at the start of the Vietnam War... guns had gone out of favor, and missiles were the future.

And then guns had to be retro-fitted to planes and ships because the missiles were too expensive to waste on low-tech targets, or too few missiles could be carried for an extended sortie.

The SWATH ships were designed for the then-current love affair with banks of vertical-launch missile batteries... especially if the missiles were on the bridge-section between the pontoons - and the rocket-exhaust could be vented straight-down.

# 16 OmarTheAlien said, on December 24th, 2007 at 7:32 pm

Rather than a radical departure this sounds like an evolutionary progression. Warships of all nations have put to sea with electrical cables running here, there, and everywhere since somewhere in the twenties, and there is a large knowledge base of how to handle electricity at sea. A ship at sea is a noisy thing, but let a generator trip off the line and the loudest thing aboard is the sudden silence.

# 17 [Mike Voice](#) said, on December 24th, 2007 at 7:46 pm

*Warships of all nations have put to sea with electrical cables running here, there, and everywhere since somewhere in the twenties, and there is a large knowledge base of how to handle electricity at sea.*

Agreed.

I served on nuclear submarines, which use steam-driven turbine-generators to generate mega-watts of power to supply all of the ship's [boat's] systems.

The article I read on superconducting motors appears to have been in the January 2002 issue of *Proceedings* - and the synopsis is:

“To take full advantage of the all-electric ship design’s flexibility and power density, the Navy should consider a direct-current power grid with superconducting, direct-current homopolar generators and propulsion motors.”

# 18 Geoerge said, on December 24th, 2007 at 9:38 pm

Who the hell uses screws anymore? go back to the 80s. Wikipedia it: Impeller. welcome to the 21st century.

and god knows how much it cost to come up with that design.

# 19 [sleze](#) said, on December 26th, 2007 at 8:12 am

“They should install a small nuke plant on this thing. Limitless power and it would never have to refuel.”

Do a google search for Refueling Complex Overhaul. For a nuclear aircraft carrier, refueling occurs once every 10 or 15 years and each refueling period takes about 5 years.

# 20 ECA said, on December 26th, 2007 at 8:36 am

be interesting just to use a water jet.

All you need to do, is ADD heat..Any form of heat, into a 1 way valve.

# 21 [zxevil164](#) said, on March 19th, 2008 at 10:15 am

kI9Z2q Cool, bro!

# 22 [zxevil164](#) said, on March 19th, 2008 at 10:18 am

jp4B7P Cool, bro!

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